

CLAIMS

What is claimed is:

1. A container with push-pull opening means comprising:
 - an elongated tubular housing with a sealed end and an open end and a bellow section between the two ends;
 - a fluid enclosed within said elongated tubular housing near said sealed end;
 - a hollow tube with a cylindrical wall and with a sealed end and an opening provided in said cylindrical wall near said sealed end disposed at said open end of said elongated tubular housing with said sealed end disposed inside said elongated tubular housing and sealing said open end of said elongated tubular housing; and
 - a sealing plug mounted on said hollow tube separating the fluid from said opening in said hollow tube;
 - wherein when said elongated tubular housing is elongated or shortened at said bellow section, said sealing plug will move to a position that allows the fluid to enter said opening in said hollow tube and a fluid flow path is opened to release the fluid from said elongated tubular housing.
2. A container with push-pull opening means as in claim 1, wherein said sealed end of said hollow tube has a larger diameter than said hollow tube.
3. A container with push-pull opening means as in claim 1, wherein said sealing plug is in the form of a cup.
4. A container with push-pull opening means as in claim 3, wherein said sealing plug has an open end and a sealed end wherein said open end is affixed to said hollow tube at a

position above the opening in the hollow tube with a fracture line provided on the sealing plug disposed between the open end of said sealing plug and the opening in the hollow tube.

5. A container with push-pull opening means as in claim 1, wherein said sealing plug is a restriction in said elongated tubular housing and wherein said sealed end of said hollow tube further comprises of an elongated protrusion with a profile such that when said end of said elongated member is inserted into said restriction said end of said elongated member will not seal the fluid flow path from the fluid through the restriction.

6. A container with push-pull opening means as in claim 1, wherein said sealing plug is a cylinder and wherein said sealed end of said hollow tube further comprises of an elongated protrusion with a profile such that when said end of said elongated member is inserted into said cylinder said end of said elongated member will not seal the fluid flow path from the fluid through the cylinder.

7. A container with push-pull opening means as in claim 6, wherein an open end of said cylinder is affixed to said hollow tube above the opening in said hollow tube with a fracture line disposed between said opening in said hollow tube and said open end of said cylinder.

8. A container with push-pull opening means comprising:
an elongated tubular housing with a sealed end and an open end and a bellow section between the two ends;
a fluid enclosed within said elongated tubular housing near said sealed end;
a hollow tube disposed at said open end of said elongated tubular housing; and
a sealing plug mounted against said hollow tube separating the fluid from an open end of said hollow tube;

wherein when said elongated tubular housing is elongated or shortened at said bellow section, said sealing plug will move to a position that allows the fluid to enter said open end of said hollow tube and a fluid flow path is opened to release the fluid from said elongated tubular housing.

9. A container with push-pull opening means as in claim 8, wherein said sealing plug is in the form of a cup.

10. A container with push-pull opening means as in claim 9, wherein said sealing plug has an open end and a sealed end wherein said open end is affixed to said hollow tube with a fracture line provided on the sealing plug disposed between the open end of said sealing plug and the open end of said hollow tube.

11. A container with push-pull opening means as in claim 9, wherein said sealing plug has one or more fluid paths through it to allow the fluid to move from one side of the sealing plug to the other side but not into the open end of said hollow tube.

12. A container with push-pull opening means as in claim 9, wherein said sealing plug has an open end and a sealed end and a cylindrical wall wherein an opening is provided in the cylindrical wall of said sealing plug between the sealed end and the open end.

13. A container with push-pull opening means as in claim 12, wherein said hollow tube is inserted into said open end of said sealing plug and affixed to said sealed end of said sealing plug with a fracture line provided on the hollow tube disposed between the opening in said sealing plug and said open end of said hollow tube.

14. A container with push-pull opening means as in claim 8, wherein a restriction is disposed within said elongated tubular housing between said sealing plug and said open end of said elongated tubular housing.

15. A container with push-pull opening means as in claim 8, wherein said sealing plug has a protrusion with approximately the same outside diameter as the inside diameter of the hollow tube inserted into an open end of said hollow tube.

16. A container with push-pull opening means as in claim 15, wherein said sealing plug has one or more fluid paths through it to allow the fluid to move from one side of the sealing plug to the other side but not into the open end of said hollow tube.

17. A container with push-pull opening means as in claims 15 or 16, wherein an open end of said hollow tube is affixed to said sealing plug with a fracture line provided on said hollow tube near said open end of said hollow tube.

18. A container with push-pull opening means as in claim 12, wherein a protrusion is affixed within said sealing plug to said sealed end and extends from said sealed end of said sealing plug towards said open end of said sealing plug.

19. A container with push-pull opening means as in claim 15, wherein a restriction is disposed within said elongated tubular housing between said sealing plug and said open end of said elongated tubular housing.

20. A container with push-pull opening means as in claim 15, wherein said sealing plug has a hollow interior that extends into said protrusion and wherein an opening is disposed from said hollow interior through said outside diameter of said protrusion.

21. A container with push-pull opening means as in claim 8, wherein an open end of said hollow tube and said sealing plug are disposed within an restriction inside the elongated tubular housing.

22. A container with push-pull opening means as in claim 8, wherein said sealing plug is disposed within a cylinder with a sealed end and an open end wherein said cylinder has a

smaller outside diameter than the inside diameter of said elongated tubular housing and multiple openings formed in the cylindrical walls of said cylinder near said sealed end of said cylinder positioned between said sealing plug and said sealed end of said cylinder and wherein said open end of said cylinder is affixed to and sealed with its outside surface against said elongated tubular housing and wherein an open end of said hollow tube is formed at an angle and inserted into said cylinder above said sealing plug.

23. A container with push-pull opening means as in claim 8, wherein said sealing plug is a cylinder with a first end affixed and sealed against said sealed end of said elongated tubular housing and with a second end with approximately the same inside diameter as the outside diameter of said hollow tube removably attached to an open end of said hollow tube whereby said fluid is enclosed between the cylinder and the elongated tubular housing.

24. A container with push-pull opening means as in claim 23, wherein said cylinder is further provided with an opening near said sealed end of said elongated tubular housing and wherein said open end of said hollow tube is sealed and provided with an opening that is sealed by said cylinder.

25. A container with push-pull opening means as in claim 23, wherein said second end of said cylinder has a smaller diameter than said cylinder and wherein said open end of said hollow tube has a larger diameter than said hollow tube and also larger than said second end of said cylinder whereby said open end of said hollow tube with a larger diameter will slide inside said cylinder and seal against said second end of said cylinder with said smaller diameter.

26. A container with push-pull opening means as in claims 1, 3, 4, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, or 20, wherein said sealing plug is affixed to said sealed end of said elongated tubular housing with an elongated member.

27. A container with push-push opening means as in claim 8, wherein said sealing plug further comprises of an elongated member with a sealing portion with approximately the same outside diameter as the insider diameter of said hollow tube and wherein an end of said elongated member is provided with a profile such that when said end of said elongated member is inserted into said hollow tube said end of said elongated member will not seal the fluid flow path from the fluid through the hollow tube.

28. A container with push-pull opening means as in claim 27, wherein said hollow tube is provided with a fracture line positioned at the sealing portion of the elongated member and wherein said open end of said hollow tube is affixed to said sealing portion of said elongated member.

29. A container with push-pull opening means as in claim 8, wherein said sealing plug further comprises of an elongated member with a sealing portion with approximately the same outside diameter as the insider diameter of said hollow tube and wherein an end of said elongated member is provided with a profile such that when said end of said elongated member is inserted into said hollow tube said end of said elongated member will not seal the fluid flow path from the fluid through the restriction whereby said elongated member is slidably inserted with said sealing portion inside the hollow tube.

30. A container with push-pull opening means as in claim 29, wherein an end of said sealing plug with said sealing portion is affixed to said open end of said hollow tube and wherein a fracture line is provided on said hollow tube near said open end of said hollow tube disposed at said sealing portion of said sealing plug.

31. A container with push-pull opening means as in claim 8, wherein a cylinder with a cylindrical wall and a sealed end and an open end and with a smaller outside diameter than the

inside diameter of said elongated tubular housing is disposed within said elongated tubular housing with an outside circumference of an open end affixed and sealed against said elongated tubular housing and wherein said sealing plug further comprises of an elongated member with a sealing portion with approximately the same outside diameter as the inside diameter of said cylinder and wherein an end of said elongated member is provided with a profile such that when said end of said elongated member is inserted into said cylinder said end of said elongated member will not seal the fluid flow path from the fluid through the cylinder whereby said elongated member is slidably inserted with said sealing portion inside the cylinder and affixed to said sealed end of said cylinder and with a fracture line provided on the cylindrical wall near said sealed end of said cylinder disposed at said sealing portion of said sealing plug.

32. A container with push-pull opening means as in claim 31, wherein said end of said elongated member that is provided with a profile such that when said end of said elongated member is inserted into said cylinder said end of said elongated member will not seal the fluid flow path from the fluid through the cylinder and extends substantially out of the open end of said cylinder.

33. A container with push-pull opening means as in claims 9 or 11, wherein an end of said hollow tube has a smaller diameter than an inside diameter of said sealing plug and is inserted into said open end of said sealing plug and affixed to said sealed end of said sealing plug with a fracture line provided on the hollow tube at said smaller diameter end.

34. A container with push-pull opening means as in claims 9 or 11, wherein an end of said hollow tube has a smaller diameter than an inside diameter of said sealing plug and is inserted into said open end of said sealing plug and affixed to said sealed end of said sealing plug

with a fracture line provided on said sealing plug disposed at away from said smaller diameter end of said hollow tube.

35. A container with push-pull opening means comprising:

- an elongated tubular housing with a sealed end and an open end and a bellow section between the two ends;
- a fluid enclosed within said elongated tubular housing near said sealed end;
- a hollow tube disposed at said open end of said elongated tubular housing; and
- a sealing plug slidably mounted within said elongated tubular housing separating the fluid from an open end of said hollow tube;

wherein when said elongated tubular housing is elongated or shortened at said bellow section, said sealing plug will move to a position that allows the fluid to enter said open end of said hollow tube and a fluid flow path is opened to release the fluid from said elongated tubular housing.

36. A container with push-pull opening means as in claim 35, wherein a restriction is provided in said elongated tubular housing and wherein said sealing plug further comprises of an elongated member with a sealing portion with approximately the same outside diameter as the insider diameter of said restriction and wherein an end of said elongated member is provided with a profile such that when said end of said elongated member is inserted into said restriction said end of said elongated member will not seal the fluid flow path from the fluid through the restriction whereby said elongated member is slidably inserted with said sealing portion inside the restriction.

37. A container with push-pull opening means as in claim 35, wherein a cylinder with a cylindrical wall with a smaller outside diameter than the inside diameter of said elongated

tubular housing and with an opening provided in said cylindrical wall is disposed within said elongated tubular housing with an outside circumference of an open end affixed and sealed against said elongated tubular housing and wherein said sealing plug further comprises of an elongated member with a sealing portion with approximately the same outside diameter as the insider diameter of said cylinder and wherein an end of said elongated member is provided with a profile such that when said end of said elongated member is inserted into said cylinder said end of said elongated member will not seal the fluid flow path from the fluid through the cylinder whereby said elongated member is slidably inserted with said sealing portion inside the cylinder.

38. A container with push-pull opening means as in claim 37, wherein a second end of said cylinder is sealed.

39. A container with push-pull opening means comprising:

- an elongated tubular housing with a sealed end and an open end and a bellow section between the two ends;
- a fluid enclosed within said elongated tubular housing near said sealed end;
- a hollow tube with a sealed end and an open end disposed near said open end of said elongated tubular housing with said sealed end of said hollow tube towards said open end of said elongated tubular housing; and
- a sealing plug mounted against said hollow tube;

wherein when said elongated tubular housing is elongated or shortened at said bellow section, said sealing plug will move to a position that allows the fluid to be released form said elongated tubular housing.

40. A container with push-pull opening means as in claim 39, wherein said sealing plug is an O-ring sealing between said elongated tubular housing and said hollow tube near said open end of said hollow tube.

41. A container with push-pull opening means as in claim 39, wherein said sealing plug is a restriction in said elongated tubular housing disposed near said open end of said hollow tube.

42. A container with push-pull opening means as in claims 40 or 41, wherein an opening is provided on said hollow tube disposed at said sealing plug.

43. A container with push-pull opening means as in claim 42, wherein a stabilizer O-ring is provided around said hollow tube near said sealed end of said hollow tube and comprises of multiple fluid flow path from one side of said O-ring to the other side of said O-ring.

44. A container with push-pull opening means as in claim 39, wherein an opening is provided on said hollow tube disposed near said sealed end of said hollow tube and wherein said sealing plug is an O-ring sealing between said elongated tubular housing and said hollow tube near said open end of said hollow tube.

45. A container with push-pull opening means as in claim 39, wherein an opening is provided on said hollow tube disposed near said sealed end of said hollow tube and said sealing plug is a restriction in said elongated tubular housing disposed near said open end of said hollow tube.

46. A container with push-pull opening means as in claims 44 or 45, wherein a stabilizer O-ring is provided around said hollow tube near said open end of said hollow tube.

47. A container with push-pull opening means as in claim 39, wherein an opening is provided on said hollow tube and wherein said sealing plug is removably affixed to said open end of said hollow tube.

48. A container with push-pull opening means as in claim 47, wherein an O-ring seals is disposed between said elongated tubular housing and said hollow tube disposed between said opening in said hollow tube and said open end of said hollow tube.

49. A container with push-pull opening means as in claim 47, wherein a restriction in said elongated tubular housing disposed between said elongated tubular housing and said hollow tube disposed between said opening in said hollow tube and said open end of said hollow tube.

50. A container with push-pull opening means as in claims 48 or 49, wherein a stabilizer O-ring is provided around said hollow tube near said open end of said hollow tube and comprises of multiple fluid flow path from one side of said O-ring to the other side of said O-ring.

51. A container with push-pull opening means as in claim 39, wherein said sealing plug has an open end and a sealed end wherein said open end is affixed to said hollow tube with a fracture line provided on the sealing plug disposed between the open end of said sealing plug and the open end of said hollow tube.

52. A container with push-pull opening means as in claim 51, wherein an O-ring seals is disposed between said elongated tubular housing and said hollow tube disposed between said opening in said hollow tube and said open end of said hollow tube.

53. A container with push-pull opening means as in claim 51, wherein a restriction in said elongated tubular housing disposed between said elongated tubular housing and said hollow tube disposed between said opening in said hollow tube and said open end of said hollow tube.

54. A container with push-pull opening means as in claims 52 or 53, wherein a stabilizer O-ring is provided around said hollow tube near said open end of said hollow tube and comprises of multiple fluid flow path from one side of said O-ring to the other side of said O-ring.

55. A container with push-pull opening means as in claim 39, wherein said sealing plug has an open end and a sealed end wherein said open end is affixed to said hollow tube with a fracture line provided on the sealing plug disposed between the open end of said sealing plug and the open end of said hollow tube and wherein said sealing plug further comprising a protrusion from said sealed end towards said open end of said sealing plug wherein an end of said protrusion near said open end of said sealing plug has a profile such that when said end of said protrusion is inserted into said hollow tube said end of said protrusion will not seal the fluid flow path from the fluid through the hollow tube.

56. A container with push-pull opening means as in claim 55, wherein an O-ring seals is disposed between said elongated tubular housing and said hollow tube disposed between said opening in said hollow tube and said open end of said hollow tube.

57. A container with push-pull opening means as in claim 55, wherein a restriction in said elongated tubular housing disposed between said elongated tubular housing and said hollow tube disposed between said opening in said hollow tube and said open end of said hollow tube.

58. A container with push-pull opening means as in claims 56 or 57, wherein a stabilizer O-ring is provided around said hollow tube near said open end of said hollow tube and comprises of multiple fluid flow path from one side of said O-ring to the other side of said O-ring.